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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/686,186	10/11/2000	Anoop Ghanwani	10360/074001/12437HU	4714

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EXAMINER	
WON, YOUNG N	
ART UNIT	**PAPER NUMBER**
2155	6

DATE MAILED: 03/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/686,186	GHANWANI ET AL.	
	Examiner	Art Unit	
	Young N Won	2155	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 October 2000*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-43* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-43 have been examined and are pending with this action.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 2, 5-11, 14-23, 26-35 and 40-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oba et al (US 6529958 B1) in view of Meredith (US 6061626 A).

INDEPENDENT:

As per claim 1, Oba teaches a method (see col.2, lines 56-57) comprising: computing for a path (see col.1, lines 8-10 and col.2, lines 46-55) that includes multiple links (see Fig.1 and col.1, line 66 to col.2, line 2) a first color vector (see col.6, lines 35-45 & 53-59) that indicates that all of the multiple links include (see col.6, lines 19-27 & 56-57). Oba does not explicitly teach of computing for the path, a second color vector that indicates that none of the multiple links include. Meredith teaches of a second vector that indicates that none of the multiple links

include (see col.8, lines 28-31). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ the teachings of Meredith within the system of Oba by implementing computing a second color vector (color vector: as taught by Oba) that indicates that none of the multiple links include, within the path computing method because Oba teaches of a route change (see Oba: col.17, lines 48-52), thus by incorporating a color vector "labeled" (see Oba: col.1, lines 16-23) for exclusion, it eliminates packets from taking certain alternate routes which not feasible due to protocol conflicts, congestion, or the like (see Meredith: col.2, lines 19-39).

As per claims 9 and 21, Oba teaches a method (see col.2, lines 56-57) and an article comprising a machine-readable medium which stores machine-executable instructions (see col.3, lines 52-56) for computing resource color for composite links, the instructions causing a machine to perform the method comprising: calculating whether a path including multiple links (see col.6, lines 19-27 & 56-57) includes all colors (see col.6, lines 35-45 & 53-59 and col.7, lines 46-59) that must be included in a label switched path (LSP) (see col.1, lines 8-10). Oba does not explicitly teach of calculating whether the path includes any colors that must be excluded from the LSP. Meredith teaches of calculating whether the path includes any colors that must be excluded (see col.8, lines 28-31) from the LSP (implicit). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ the teachings of Meredith within the system of Oba by implementing calculating whether the path includes any colors that must be excluded within the path computing method

because Oba teaches of a route change (see Oba: col.17, lines 48-52), thus by incorporating a color vector "labeled" (see Oba: col.1, lines 16-23) for exclusion, it eliminates packets from taking certain alternate routes which not feasible due to protocol conflicts, congestion, or the like (see Meredith: col.2, lines 19-39).

As per claim 33, Oba teaches an apparatus (see col.3, lines 22-24) comprising: a mechanism configured to route data between devices configured to connect to a network (see col.2, lines 46-55; col.6, lines 13-17; and col.8, lines 47-49); and a process accessible by the mechanism that is configured to automatically (see col.6, lines 16-17 and col.27, lines 42-44) compute a color vectors (see col.6, lines 35-45 & 53-59) for a path running across the network and including multiple links (see col.6, lines 19-27 & 56-57). Oba does not explicitly teach of a computing a second vector. Meredith teaches of computing another vector (see col.8, lines 28-31). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ the teachings of Meredith within the system of Oba by implementing computing another vector within the path computing method because Oba teaches of a route change (see Oba: col.17, lines 48-52) and any information to specify packet flow between nodes can be labeled for routing (see Oba: col.1, lines 16-23).

DEPENDENT:

As per claims 2, 10, 11, 14, 15, 22, 23, 26, 27, 35, 40, and 43, Oba teaches of further comprising considering the path for inclusion, automatically (see col.6, lines 16-17 and col.27, lines 42-44) determining if the path is eligible

for inclusion, or concurrently calculating, in a label switched path (LSP) if the path includes all colors that must be included in the LSP and does not include any colors that must be excluded from the LSP (see independent claims above).

As per claims 5, 6, 20, 32, and 34, Oba teaches of further comprising automatically (see col.6, lines 16-17 and col.27, lines 42-44) re-computing the first color vector and the second color vector if a characteristic of any (one or more) of the multiple links changes (see col.8, lines 3-13).

As per claims 7, 19, and 31, Oba further teaches wherein the colors indicate service characteristics of the multiple links (see col.6, lines 53-56).

As per claim 8, Oba further teaches wherein the path runs through the Internet (see col.1, lines 12-15 and col.9, lines 51-53).

As per claims 16 and 28, Oba teaches of further comprising first performing the calculation of whether the path includes all colors that must be included in the LSP or the calculation of whether the path includes any colors that must be excluded from the LSP, and performing the other calculation only if the first calculation determines that the path includes all colors that must be included in the LSP or excludes all colors that must be excluded from the LSP (see independent claims above).

As per claims 17, 29, and 42, Oba teaches of further comprising setting up the LSP (see col.2, lines 56-58; col.3, lines 22-24 & lines 52-56).

As per claims 18, and 30, Oba further teaches wherein the path includes stacked LSPs (see col.5, lines 60-63).

As per claim 41, Oba further teaches wherein the mechanism is also configured to notify other devices of the computed color vectors (see col.6, lines 24-27).

3. Claims 3, 4, 12, 13, 24, 25, and 34-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oba et al (US 6529958 B1) and Meredith (US 6061626 A), and further in view of Samba (US 5539815 A).

As per claims 3, 12, 24, 36, and 37, Oba and Meredith do not explicitly teach of further comprising determining whether the path includes all colors that must be included in a label switched path (LSP) by performing an AND operation on the first color vector and a mask indicating colors that must be included in the LSP and determining if a result of the AND operation equals the mask. Samba teaches of determining whether the path includes all colors that must be included in a label switched path (LSP) by performing an AND operation on the first color vector and a mask indicating colors that must be included in the LSP and determining if a result of the AND operation equals the mask (see col.2, lines 33-41 & 54-58). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ the teachings of Samba within the system of Oba and Meredith by implementing an AND operation of the first vector and a mask within the path computing method because essentially all computing devices comprise of gates at the circuit level and an AND operation

only activates a logical high "1" match, thus allowing only logical high "1" match to be valid or included.

As per claims 4, 13, 25, 38, and 39, Oba and Meredith do not explicitly teach of further comprising determining whether the path includes any colors that must be excluded from a label switched path (LSP) by performing an AND operation on the second color vector and a mask indicating colors that must be excluded from the LSP and determining if a result of the AND operation equals zero. Samba teaches of determining whether the path includes any colors that must be excluded from a label switched path (LSP) by performing an AND operation on the second color vector and a mask indicating colors that must be excluded from the LSP and determining if a result of the AND operation equals zero (see col.2, lines 33-41 & 54-58). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ the teachings of Samba within the system of Oba and Meredith by implementing an AND operation of the second vector and a mask within the path computing method because essentially all computing devices comprise of gates at the circuit level and an AND operation only activates a logical high "1" match, thus allowing logical low "0" to be invalid or excluded.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Young N Won whose telephone number is 703-605-4241. The examiner can normally be reached on M-Th: 6AM-3PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain T Alam can be reached on 703-308-6662. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Young N Won

March 16, 2004

HOSAIN ALAM
SUPERVISORY PATENT EXAMINER